

ABSTRACT

Moving bed adsorber and desorber apparatus and methods, wherein adsorbent material (e.g., beads of resin) moves over a series of vane members and a fluid flow passes between the vane members and through the flowing bed of adsorbent. An adsorbent depth regulator is positioned a spaced distance from the vanes to regulate the depth of the flowing adsorbent bed. In some embodiments, the adsorbent flow may be divided into 2 or more separate streams that pass over 2 or more separate arrays of vane members. Also disclosed are shell and tube desorber apparatus wherein the shell and tube are positioned at certain angle(s) to optimize flow and recovery of contaminant from an adsorbent material and/or wherein vacuum is applied to the adsorbent concurrently with heat to enhance the desorption of contaminant from the adsorbent material.